**Claims**

1. A method for use in a geo-location system of a mobile wireless communication network, the network including at least one mobile wireless terminal and at least one base station, the mobile wireless terminal having at least one transceiver capable of operating in a first operational system and an at least second operational system, said operational systems including pilot signals transmitted along with signals transmitted in the first and at least second operational systems by said at least one base station, the method comprising the steps of:

measuring a first interference level in said first operational system;

comparing said measured first interference level to a first threshold level;

if said first measured interference level is equal to or less than said measured first threshold level, performing a geo-location process in said first operational system to obtain a location of said at least one mobile wireless terminal;

if said measured first interference level is greater than said first threshold level, switching in accordance with first prescribed criteria to said at least second operational system;

measuring a second interference level in said at least second operational system;

comparing said measured second interference level to a second threshold level;

if said measured second interference level is equal to or greater than said second threshold level, reducing said interference level utilizing second prescribed criteria until said measured second interference level is less than said second threshold level; and

performing said geo-location process in said second operational system to obtain a location of said at least one mobile wireless terminal.

2. The method as defined in claim 1 wherein one of said operational systems is a Frequency Division Duplex (FDD) system and the other of said operational systems is a Time Division Duplex (TDD) system.

3. The method as defined in claim 2 wherein said TDD system includes TDD frames each having a predetermined number of time slots and further including the steps of selecting a set of said time slots in said TDD frames, measuring interference levels in each time slot in said set, comparing said interference levels of said time slots to said second threshold level to determine which of said time slots has an interference level less

than said second threshold level, if one or more time slots has an interference level less than said second threshold level, selecting one of said time slots in accordance with third prescribed criteria, and performing said geo-location process on said selected time slot to determine the location of said mobile wireless terminal.

4. The method as defined in claim 2 wherein said TDD system includes TDD frames each having a predetermined number of time slots and further including the steps of, measuring interference levels in each time slot in said TDD frames, comparing said interference levels of said time slots to said second threshold level to determine which of said time slots has an interference level less than said second threshold level, if none of said time slots has an interference level less than said second threshold level, selecting one of said time slots in accordance with fourth prescribed criteria, and performing said geo-location process on said selected time slot to determine the location of said mobile wireless terminal.

5. The method as defined in claim 4 wherein said fourth prescribed criteria includes determining whether there are different priority levels for calls being transported by said time slots, if there are no different priority levels, selecting a time slot transporting the least load from a predetermined number of time slots.

6. The method as defined in claim 5 further including the steps of, if said step of determining indicates that there are different priority levels for calls transported in all of said time slots, selecting the time slot transporting the largest application load with the least stringent delay requirements, and reducing the interference level in said selected time slot.

7. The method as defined in claim 6 wherein said interference is reduced in said selected time slot by temporally interrupting a call being transported in said selected time slot and/or moving one or more calls from the selected time slot to others of said time slots.

8. The method as defined in claim 7 further including the steps of (a) determining whether the obtained geo-location position of the mobile wireless terminal has satisfactory accuracy, (b) if said obtained geo-location position does not have satisfactory accuracy, (c) comparing the interference level of said selected time slot to at least another predetermined threshold level to determine if said interference level of the selected time

slot is less than said at least another predetermined threshold level, (d) if the interference level in said selected time slot is equal to or greater than said at least another predetermined threshold level, (e) reducing the interference level in said selected time slot to less than said at least another predetermined threshold value, (f) again performing said geo-location process of said selected time slot, and iterating appropriate ones of said steps (a) through (f) until a current interference level of step (e) has been compared to all of said at least another predetermined threshold levels and the interference level of said selected time slot is less then a last one of said at least another predetermined threshold level.

9. The method as defined in claim 2 wherein said first criteria includes the steps of, if said interference measured in said first operational system is greater than said first threshold level, determining if said geo-location request is from an ongoing call, if said geo-location request is not from an ongoing call switching to said second operational system.

10. The method as defined in claim 9 wherein said first operational system is said FDD system and said second operational system is said TDD system, and said first criteria further includes the steps of, if said geo-location request is from an ongoing call, determining whether said mobile wireless terminal has a dual transceiver, if said mobile wireless terminal has a dual transceiver, switching to said second operational system.

11. The method as defined in claim 9 wherein said first operational system is said FDD system and said second operational system is said TDD system, and said first criteria further includes the steps of, if said geo-location request is from an ongoing call, determining whether said mobile wireless terminal has a dual transceiver, if said mobile wireless terminal does not have a dual transceiver, determining whether transmission can be temporarily discontinued over said FDD system without affecting call data flow to allow measurements on TDD systems, if said transmission over said FDD system can be temporarily discontinued, determining the interference measurement pattern and idle period positioning within FDD system frame transmissions and switching from said FDD system to said TDD system.

12. The method as defined in claim 9 wherein said first operational system is said FDD system and said second operational system is said TDD system, and said first

criteria further includes the steps of, if said geo-location request is from an ongoing call, determining whether said mobile wireless terminal has a dual transceiver, if said mobile wireless terminal does not have a dual transceiver, determining whether transmission can be temporarily be discontinued over said FDD system without affecting call data flow to allow measurements on TDD systems, if said transmission over said FDD system can not be temporarily discontinued, determining whether said geo-location request has a high level of urgency, if said geo-location request does not have a high level of urgency, determining whether said call has been completed, upon it being determined that said call has been completed, switching from said FDD system to said TDD system.

13. The method as defined in claim 9 wherein said first operational system is said FDD system and said second operational system is said TDD system, and said first criteria further includes the steps of, if said geo-location request is from an ongoing call, determining whether said mobile wireless terminal has a dual transceiver, if said mobile wireless terminal does not have a dual transceiver, determining whether transmission can be temporarily be discontinued over said FDD system without affecting call data flow to allow measurements on TDD systems, if said transmission over said FDD system can not be temporarily discontinued, determining whether said geo-location request has a high level of urgency, if said geo-location request does have a high level of urgency, determining whether said call has strong real time transmissions restraints, if said call has strong real time transmissions restraints, interrupting said call transmission over said FDD system and switching from said FDD system to said TDD system.

14. The method as defined in claim 9 wherein said first operational system is said FDD system and said second operational system is said TDD system, and said first criteria further includes the steps of, if said geo-location request is from an ongoing call, determining whether said mobile wireless terminal has a dual transceiver, if said mobile wireless terminal does not have a dual transceiver, determining whether transmission can be temporarily be discontinued over said FDD system without affecting call data flow to allow measurements on TDD systems, if said transmission over said FDD system can not be temporarily discontinued, determining whether said geo-location request has a high level of urgency, if said geo-location request does have a high level of urgency, determining whether said call has strong real time transmissions restraints, if said call

does not have strong real time transmissions restraints, postponing said call transmission over said FDD system and switching from said FDD system to said TDD system.

15. The method as defined in claim 2 wherein said first operational system is said FDD system and said second operational system is said TDD system, and said first criteria includes the steps of, if said interference measured in said first operational system is equal to or less than said first threshold level, performing said geo-location process in said FDD system, (a') determining whether the resulting geo-location has satisfactory accuracy, (b') if said geo-location accuracy is not satisfactory, setting a timer having a critical period, (c') determining whether said critical period has expired, if said critical period has not expired repeating steps (a') through (c') until either said accuracy is satisfactory or said critical period has expired.

16. The method as defined in claim 15 further including the steps of, if said accuracy is satisfactory, deleting said geo-location request, determining whether the said call was interrupted or postponed, if said call was not interrupted or postponed, stopping said geo-location procedure, if said call was interrupted or postponed, determining whether said call should be if, possible, resumed in the FDD system or carried on in the TDD system and thereafter stopping said geo-location procedure.

17. The method as defined in claim 15 further including the steps of, if said critical time period has expired, determining if said geo-location request is from an ongoing call, if said geo-location request is not from an ongoing call switching to said TDD system, if said geo-location request is from an ongoing call, determining whether said mobile wireless terminal has a dual transceiver, and if said mobile wireless terminal has a dual transceiver, switching to said TDD system.

18. Apparatus for a mobile wireless terminal associated with a wireless communications network in which geo-location positions of the mobile wireless terminal can be made, the network including at least one of the mobile wireless terminals and at least one base station, the mobile wireless terminal having at least one transceiver capable of operating in a first operational system and an at least second operational system, said operational systems including pilot signals transmitted along with signals transmitted in the first and at least second operational systems by said at least one base station, the apparatus comprising:

measurement equipment to measure a first interference level in said first operational system;

a comparator to compare said measured first interference level to a first threshold level;

a processor responsive to a result from said comparator indicating said first measured interference level is equal to or less than said measured first threshold level, to effect a geo-location process in said first operational system to obtain a location of said at least one mobile wireless terminal;

a controllable switch, responsive to said result from said comparator indicating said measured first interference level is greater than said first threshold level, to switch in accordance with first prescribed criteria from said first operational system to said at least second operational system;

said measurement equipment being controlled to measure a second interference level in said at least second operational system;

said comparator being controlled to compare said measured second interference level to a second threshold level;

an interference reduction unit responsive to said measured second interference level being equal to or greater than said second threshold level, to reduce said interference level utilizing second prescribed criteria until said measured second interference level is less than said second threshold level; and

said processor being controlled to effect said geo-location process in said second operational system to obtain a location of said at least one mobile wireless terminal.

19. The apparatus as defined in claim 18 wherein one of said operational systems is a Frequency Division Duplex (FDD) system and the other of said operational systems is a Time Division Duplex (TDD) system.

20. The apparatus as defined in claim 19 wherein said TDD system includes TDD frames each having a predetermined number of time slots and further including the a selector to select a set of said time slots in said TDD frames, said measurement equipment measuring interference levels in each time slot in said set, a comparator to compare said interference levels of said time slots to said second threshold level to determine which of said time slots has an interference level less than said second

threshold level, said selector being responsive to one or more time slots having an interference level less than said second threshold level, to select one of said time slots in accordance with third prescribed criteria, and said processor causing the performance of said geo-location process on said selected time slot to determine the location of said mobile wireless terminal.